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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,645	04/15/2004	Jinlian Hu	P69665US0	7691

136 7590 12/02/2008

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EXAMINER	
BROOKS, KRISTIE LATRICE	

ART UNIT	PAPER NUMBER
1616	

MAIL DATE	DELIVERY MODE
12/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,645	HU ET AL.	
	Examiner	Art Unit	
	KRISTIE L. BROOKS	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

1. Claims 1-11 and 13-19 are pending.

2. Receipt and consideration of Applicants remarks/arguments submitted on June 9, 2008 is acknowledged.

3. Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Grounds of Rejection Necessitated by Applicant's Amendment

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-2,4-9, 13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al.(US 4,683,258) in view of Sun et al. (US 6,322,665).

Applicant claims a method of manufacturing a deodorant including the steps of forming polymer particles by reacting a main monomer of (N-substituted alkyl)acrylamide, a functional monomer for bonding the polymer particles to a fibrous substrate, a cross-linking agent, and an initiator; and loading a deodorant agent to the polymer particles, wherein the deodorant is selected from the group consisting of C18:1 dioic acid, C18:2 dioic acid, and phenyl compounds.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Itoh et al. teach a method for manufacturing a composition that can optionally incorporate an odor preventative, the method comprising reacting a homopolymer or copolymer of at least one N-alkyl or N-alkylene substituted acrylamide or (meth)acrylamide such as N-isopropyl acrylamide with an hydrophilic monomers such as acrylamide, a crosslinkable monomer such as N,N'-methylenebisacrylamide and an initiator and incorporating the composition into a fibrous material (see the abstract and column 3 lines 44-64 and column 4 lines 1-4, and column 7 lines 55-67, and column 13 lines 14-17).The hydrophilic monomer may generally be used in the amount of 60wt% or less (see the entire article, especially column 4 liens 55-58). The polymer of the invention is subject the polymer to a heat treatment ranging from 60-250°C (see the entire article, especially column 5 lines 18-46). Crosslinkable monomers may be utilized

in the preparations in the amount of 0.01-10wt% (see the entire article, especially column 5 lines 48-51 and column 6 lines 1-3).The use of polymerization initiators include azo compounds, inorganic and organic peroxides, and potassium persulfate which usually give better results when used (see the entire article, especially column 7 lines 55-67). The initiators can be used in a range of 0.01-5wt% (see the entire article, especially column 8 lines 9-15).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Itoh et al. do not have an exemplification of manufacturing said deodorant using the instant components. Further, Itoh et al. do not teach the specific use of cyclodextrin. This deficiency is cured by the teachings of Sun et al.

Sun et al. teach a high wet performance web comprising a polymeric anionic reactive compound (PACR) solution applied to a cellulosic fibrous web (same as tissue, tower, or textile) (see the entire article, especially the abstract, column 2 lines 40-46) and column 4 lines 28-29). The natural or synthetic fibers cellulosic fibers include nonwoody fibers, such as cotton lines and other cotton fiber, rayon etc (see the entire article, especially column 3 lines 45-67 and column 4 lines 1-27). The PACR solution can be applied by any method including coating (see the entire article, especially column 8 lines 65-67 and column 9 lines 1-2). Other chemical treatments can be

incorporated into the web, such as odor-control substances such as cyclodextrins (see the entire article, especially column 7 lines 29-32).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to manufacture said deodorant using the instant components and loading a deodorant agent onto the polymer particles.

One of ordinary skill in the art would have been motivated to do this because Itoh et al. suggest polymerization of the instant polymers, cross-linking agents, with the use of an initiator, and additives such as odor preventatives for integration into fibrous material. Thus, it would have been obvious to one of ordinary skill in the art to use the instant components, because they are all useful in making an absorbing and releasing agent for integration into fibrous material.

Although Itoh et al. do not teach loading the deodorant agent to the polymer particles, it would be obvious to one of ordinary skill in the art because the fibrous material will be able to absorb moisture as well as prevent odor from occurring in the fibrous material. Furthermore, although Itoh et al. do not teach how the polymeric particles are attached to the fibrous substrate, one of ordinary skill would readily assume that since the instant components and the components taught by the prior art are the same, in the absence of evidence to the contrary, the polymeric particles would be attached to the substrate by hydrogen bonding.

Ito et al. do not teach the use of the deodorant, cyclodextrin. However, it would be obvious to one of ordinary skill in the art to use cyclodextrin because cyclodextrin is known to be used as an odor controlling substance in polymeric compositions to be applied to a fibrous material.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

6. Claims 3,10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al.(US 4,683,258), in view of Sun et al. (US 6,322,665), further in view of Izubayashi et al. (US 5,284,900).

Applicant claims a method of manufacturing a deodorant including the steps of forming polymer particles by reacting a main monomer of (N-substituted alkyl)acrylamide, a functional monomer for bonding the polymer particles to a fibrous substrate, a cross-linking agent, and an initiator; and loading a deodorant agent to the polymer particles

Determination of the scope and content of the prior art

(MPEP 2141.01)

The disclosure of Itoh et al. is set forth above. Specifically Itoh et al. teach a polymerization method which may be employed includes copolymerizing a crosslinkable

monomer such as N,N'-methylenebisacrylamide with acrylamide or methacrylamide derivatives such as N-isopropyl acrylamide and acrylamide, subject the polymer to a heat treatment ranging from 60-250°C, and integrating the polymer into the fibrous material (see the abstract and column 3 lines 44-64 and column 4 lines 1-4, and column 7 lines 55-67, and column 13 lines 14-17).

Sun et al. teach a high wet performance web comprising a polymeric anionic reactive compound (PACR) solution applied to a cellulosic fibrous web (same as tissue, tower, or textile) (see the entire article, especially the abstract, column 2 lines 40-46) and column 4 lines 28-29). The natural or synthetic fibers cellulosic fibers include nonwoody fibers, such as cotton lines and other cotton fiber, rayon etc (see the entire article, especially column 3 lines 45-67 and column 4 lines 1-27). The PACR solution can be applied by any method including coating (see the entire article, especially column 8 lines 65-67 and column 9 lines 1-2). Other chemical treatments can be incorporated into the web, such as odor-control substances such as cyclodextrins (see the entire article, especially column 7 lines 29-32).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Itoh et al. and Sun et al. do not teach the use of a binding agent. Further, Itoh et al. do not teach the use of the main monomer in an amount of 80-90%. These deficiencies are cured by the teachings of Izubayashi et al.

Izubayashi et al. teach a coating film comprising an aqueous crosslinkable resin dispersion with excellent adhesion, water resistance, solvent resistance and durability (see the entire article, especially the abstract). The crosslinkable resin dispersion I characterized by its being obtained by emulsion-polymerizing in an aqueous medium a monomer composition comprising 0-40% at least one polymerizable monomer with 60-99.9% of at least one or more polymerizable monomers such as (meth)acrylamide, N-monoethyl(methyl)acrylamide, etc (see the entire article, especially column 3 lines, 33-45and column 5 lines 2-21). Heating is generally carried out at a temp of 60-130°C (see the entire article, especially column 11 lines 58-61). The coating compositions are useful as textile finishing compositions because of their excellent adhesiveness to a variety of substrates such as natural or synthetic, organic or inorganic fibers, or inorganic substrates (see the entire article, especially column 14 lines 26-49 and column 16 lines 40-68). When the coating compositions are applied as an over coat, they incorporate a crosslinking (binding) agent such as glutaraldehyde 9see the entire article, especially column 15 lines 48-68).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use a binding agent and to use the main monomer in an amount of 80-90%.

One of ordinary skill in the art would have been motivated to do this because Izubayashi et al. suggest that when using the coating compositions as an over coat composition, crosslinking (binding) agents such as glutaraldehyde are added to the composition. Thus it would be obvious to one of ordinary skill in the art to add a binding agent because the agents help provide excellent adhesive properties to the coating composition when used on fibrous material. Furthermore, although Itoh et al. do not teach the use of the main monomer in an amount of 80-90%, it would have been obvious to one of ordinary skill in the art because the it is already known to use main monomers of N-substituted alkyl)acrylamide in that amount when preparing coating compositions on fibrous material. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Response to Arguments

Applicant's arguments filed June 6, 2008 have been fully considered but they are not persuasive.

Applicant argues that the composition taught by Itoh et al. is for absorbing and releasing water upon changes in the relative humidity of the surroundings whereas Applicant's instant invention is drawn to manufacturing a deodorant.

This argument is not persuasive. First, it should be noted that Applicant is claiming a method of making a deodorant and not the method of use. Itoh et al. teach an agent comprising the same monomers, cross-linking agent, and initiator reacting together. The product can be manufactured with odor preventatives (i.e. deodorant) and thus the process taught in Ito et al. is capable of manufacturing a deodorant.

Therefore, Applicant's arguments of nonobviousness are not persuasive and the rejection is maintained.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIE L. BROOKS whose telephone number is (571)272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616